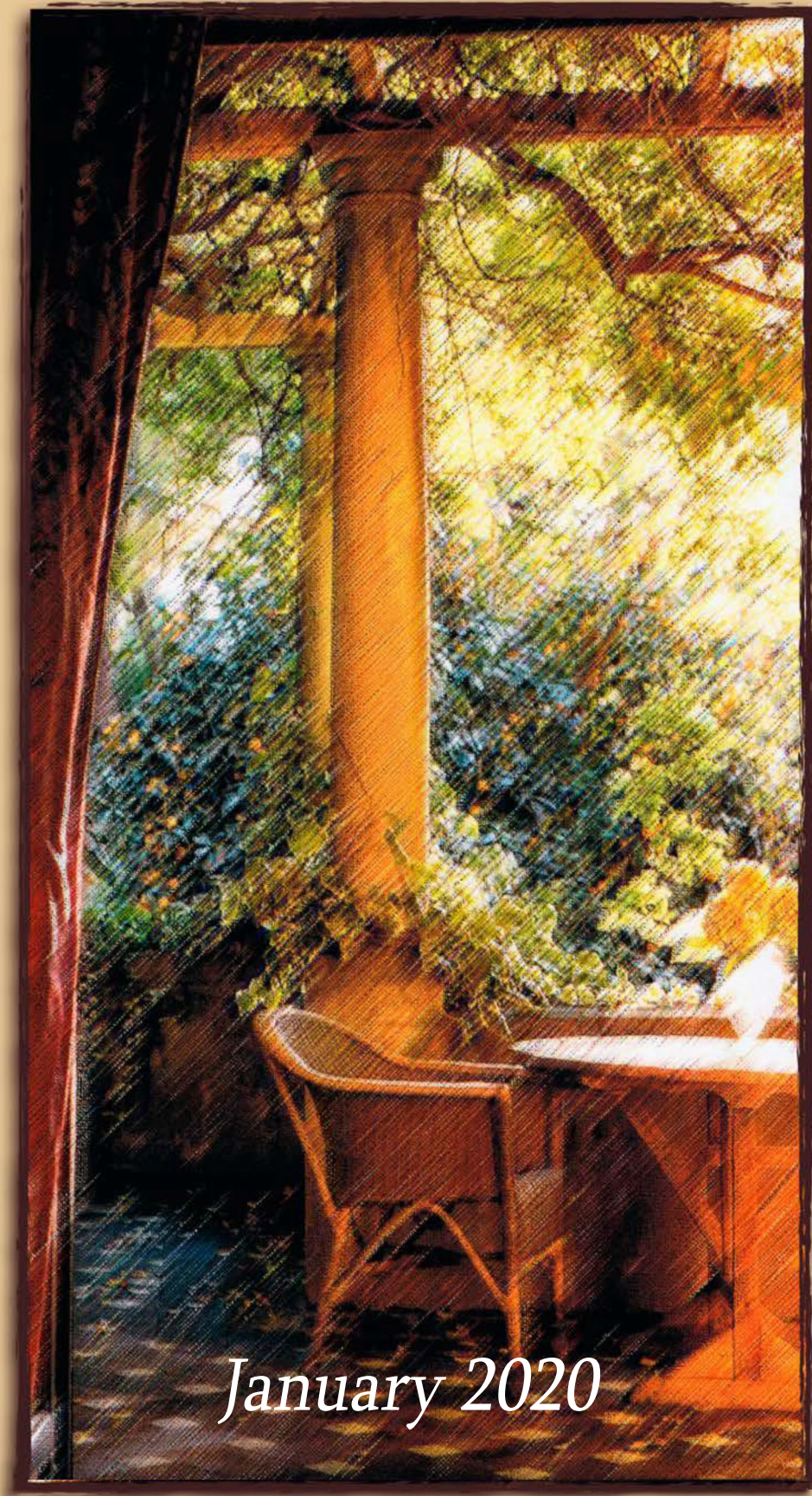


OTAY RANCH RESORT VILLAGE

ALTERNATIVE H



January 2020

ENERGY CONSERVATION PLAN

The Otay Ranch Resort Village Alternative H Energy Conservation Plan

OTAY RANCH RESORT VILLAGE; GPA 04-03, SP 04-002, REZ 04-009, TM 5361

1. Purpose

This Energy Conservation Plan (ECP) for the Otay Ranch Resort Village Alternative H (Project) describes the various regulatory compliance measures and project design features that will reduce the Project's energy consumption.

The Project is part of Otay Ranch, an approximately 23,000-acre master-planned community in southern San Diego County, partly within the limits of the City of Chula Vista and partly within an unincorporated area of the County of San Diego. The Project is located within the Otay Resort Village portion of the County of San Diego's Otay Subregional Plan (Otay SRP) (which is part of the County's 2011 General Plan). The purpose of the Project is to implement the adopted Otay Ranch General Development Plan/Otay Subregional Plan, Volume II (Otay SRP) and complete the planned development of Otay Ranch Resort Village Alternative H.

The Otay SRP requires preparation of a Non-Renewable Energy Conservation Plan to identify feasible methods to reduce the consumption of non-renewable energy sources, through methods related to transportation, building design and use, lighting, recycling, alternative energy sources, water use, and land use. This Energy Conservation Plan, in conjunction with the Water Conservation Plan (WCP), fulfill the Otay Ranch SRP requirement. In accordance with *Appendix F – Energy Conservation* - of the CEQA Guidelines, the goal of energy conservation is the wise and efficient use of energy through:

- Decreasing overall per capita energy consumption
- Decreasing reliance on natural gas and oil, and
- Increasing reliance on renewable energy sources.¹

Fossil fuels provide the majority of non-renewable energy sources in the San Diego region. These fuels are directly consumed in the form of gasoline, diesel fuel, and natural gas, and indirectly consumed as electricity generated from these fuels. The goals, objectives, and policies of the Otay SRP provide for the long-range increase in conservation and reduction of consumption of non-renewable energy sources.

The land use plans for the Project propose 1,881 single-family homes and 57 multi-family homes for a total of 1,938 homes. Resort uses would encompass 16.6 acres in the southeast portion of the site and include up to 200 rooms and 20,000 square feet of ancillary retail/commercial uses. A total of 25.1 gross acres of parkland would be provided, which includes a central park in the village core and five neighborhood parks within convenient walking distance from all homes. A 10.1-acre elementary school is proposed adjacent to the central park. A 2.3-acre Public Safety Site is included within the site to replace the Village 15 facility which was removed with the purchase of the Village by the Resource Agencies. The Project also proposes a community homeowner facility (6.1 acres), located close to the Village Core, which includes meeting space and fitness center, recreation courts, a swimming pool and picnic areas. The Project would convey 1,107 acres to the Otay Ranch RMP Preserve and designate 69.3 acres of additional habitat land as Conservation Open Space. Additionally, 76.5 acres would be used for manufactured open space, which consists of homeowner association maintained manufactured slopes, water basin lots, and fuel management zones. Other land uses include 32.3 acres for internal circulation.

¹ Please see Section 3.8 of the Project's Environmental Impact Report (EIR) for an assessment of impacts relating to the Project's consumption of and demand for natural gas, electricity and transportation fuels during the Project's construction and operational phases.

Opportunities for energy conservation include the arrangement and intensity of land uses, programs to reduce vehicular trips, and building siting, design and construction. Water conservation measures are also incorporated into landscape and irrigation system design. This ECP for Otay Ranch Resort Village Alternative H describes the various project design features which will reduce the energy consumption over the business as usual consumption of energy.

2. Federal Regulatory Framework

This section describes actions taken and regulations established by the Federal Government that achieve energy conservation benefits.

2.1 Massachusetts vs. EPA

In April 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court directed the Administrator of the U.S. Environmental Protection Agency (EPA) to determine whether greenhouse gas (GHG) emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator was directed to follow the language of Section 202(a) of the Clean Air Act (CAA). In December 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

- Elevated concentrations of GHGs—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The combined emissions of GHGs—CO₂, CH₄, N₂O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA. By regulating the emissions of GHGs from new motor vehicles, energy conservation benefits typically result through increased engine efficiency and the reduced consumption of petroleum-based fuels (e.g., gasoline).

2.2 Federal Vehicle Standards

In response to the *Massachusetts v. EPA*, decision discussed above, in 2007, President Bush directed the EPA, the Department of Transportation (DOT), and the Department of Energy (DOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. Thereafter, in 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama directed the DOT, DOE, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed coordinated federal GHG and fuel economy standards for light-duty vehicles for model years 2017–2025. The standards are projected to achieve 163 grams/mile of CO₂ in

model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to light-duty vehicles described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 percent - 23 percent over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two programs related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

In summary, the federal vehicle standards conserve energy by increasing the operating efficiencies of vehicles and reducing the consumption of transportation fuels.

2.3 Energy Independence and Security Act

In December 2007, President Bush signed the Energy Independence and Security Act of 2007 into law. Among other key measures, the Act established the following:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Sets a target of 35 mpg for the combined fleet of cars and light trucks by model year 2020 and directs NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks (see discussion of “Federal Vehicle Standards” above).
- Prescribes or revises standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

2.4 Clean Power Plan and New Source Performance Standards for Electric Generating Units

On October 23, 2015, EPA published a final rule establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electricity Utility Generating Units (80 FR 64510- 64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO₂ emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, EPA published a final rule establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661-65120). The rule prescribes CO₂ emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units.

Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits; additionally, in May 2017, President Donald Trump signed an executive order that calls for the EPA's review of the Clean Power Plan and, in October 2017, the EPA proposed to repeal the Clean Power Plan. In August 2018, the EPA issued the proposed Affordable Clean Energy Rule, which would replace the Clean Power Plan, rulemaking proceedings are still underway as of this writing.

3. Statewide Regulatory Framework

Background

The State of California has established a policy, statutory, and regulatory framework that serves to conserve energy, while also reducing GHG, criteria air pollutant and/or toxic air contaminant emissions. While key aspects of that framework are summarized below, other policies, regulations and laws are discussed in Section 2.10, Global Climate Change, and Section 3.8, Energy, of the Project's Final Environmental Impact Report.

3.1 Executive Order S-3-05

In 2005, Governor Schwarzenegger issued Executive Order (EO) S-3-05, which established the following state-wide GHG emission reduction goals: GHG emissions should be reduced to 2000 levels by 2010; to 1990 levels by 2020; and to 80-percent below 1990 levels by 2050. This executive policy has served as the foundation for many of California's statutory and regulatory initiatives principally designed to reduce GHG emissions, with corresponding benefits in the form of energy conservation.

3.2 Assembly Bill 32

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, was enacted in 2006 after considerable study and expert testimony before the Legislature. The heart of AB 32 is the requirement that state-wide GHG emissions be reduced to 1990 levels by 2020 (Health & Safety Code, §38550), which is one element of Executive Order S-3-05.

In 2008, the California Air Resources Board (CARB) adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in accordance with Health & Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80-percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan². This update established CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The 2017 Scoping Plan includes continuation of the Cap-and-Trade Program through 2030, incorporates a Mobile Source Strategy that is intended to increase zero emission vehicle fleet penetration, and proposes a more stringent Low Carbon Fuel Standard target by 2030.

² CARB, 2017. California's 2017 Climate Change Scoping Plan - The strategy for achieving California's 2030 greenhouse gas target. Available at: https://www.arb.ca.gov/cc/scoping_plan_2017.pdf

3.3 Senate Bill 32

Enacted in 2016, SB 32 codifies the 2030 emissions reduction goal of Executive Order B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030.

Building Energy-Related Regulatory Framework

California's existing regulatory framework creates important nexus to energy conservation objectives associated with building energy consumption, as described below, through requirements to: (i) procure energy from renewable sources, and (ii) reduce the demand for electricity and natural gas by constructing buildings that achieve efficiency standards.

3.4 Renewable Portfolio Standard (SB X1-2 (2011), SB 350 (2015), and SB 100 (2018))

SB X1-2 (2011) requires all California utilities to generate 33-percent of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20-percent shall come from renewables; by December 31, 2016, 25-percent shall come from renewables; and, by December 31, 2020, 33-percent shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50-percent of their electricity from eligible renewable energy resources by 2030, with interim goals of 40-percent by 2024 and 45 percent by 2027.

SB 100 (2018) accelerated and increased the rigor of the targets set by SB 350, and requires the Public Utilities Commission, State Energy Resources Conservation and Development Commission and CARB plan for 100-percent of total retail sales of electricity in California coming from eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 33-percent renewable portfolio standard in 2020, 50-percent by 2026, and 60-percent by 2030.

3.5 California Building Efficiency Standards (Title 24)

Title 24, Part 6, of the California Code of Regulations (CCR) regulates the design of building shells and building components. The standards contain energy and water efficiency requirements for newly constructed buildings, additions to existing buildings, and alterations to existing buildings. The standards are updated periodically (typically every three-years) to allow for consideration and possible incorporation of new energy efficiency technologies and methods, such as those relating to windows, insulation, ventilation systems and other features that reduce energy consumption in residential and non-residential buildings.

The California Energy Commission's (CEC) 2019 Building Energy Efficiency Standards (2019 Building Standards), which become effective on January 1, 2020, are the most current version of these standards.³ The 2019 update includes building standards that require solar photovoltaic systems in 2020 on certain building types, including single-family, detached residences. The building efficiency standards are expected to reduce greenhouse gas emissions by an amount equal to removing 115,000 fossil fuel cars off the

³ 2019 Building Energy Efficiency Standards (Title 24, Part 6) https://www.energy.ca.gov/releases/2018_releases/2018-05-09_building_standards_adopted_nr.html

road. The new cost-effective 2019 Building Energy Efficiency Standards focus on four key areas: smart residential photovoltaic systems; updated thermal envelope standards; residential and non-residential ventilation requirements; and non-residential lighting requirements.

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the Title 24, Part 6 requirements), water conservation, material conservation, and interior air quality. CALGreen is periodically amended, and was most recently amended in 2016 and became effective on January 1, 2017.

At a minimum, the Project would be required to comply with 2019 Building Standards and 2019 CALGreen Standards because its building construction phase would commence after January 1, 2020.

3.6 Zero Net Energy Buildings

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero-net energy (ZNE) for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE beginning in 2020, and (2) all new commercial construction in California will be ZNE beginning in 2030. Notably all Project residences will be designed to achieve ZNE, as defined by the CEC in its 2015 Integrated Energy Policy Report.⁴

Mobile-Related Regulatory Framework

California's existing regulatory framework advances important energy conservation objectives associated with mobile source energy consumption, as described below, through requirements to: (i) increase the operating efficiencies of vehicles and secure the use of zero emission vehicles, and thereby reduce the consumption of transportation fuels; (ii) reduce the number of vehicle miles travelled (VMT), and thereby reduce the consumption of transportation fuels; and, (iii) reduce the carbon content of transportation fuels.

3.7 Pavley Standards (AB 1493)

As enacted in 2002, AB 1493 (Pavley) required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other non-commercial personal transportation vehicles. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in 2004. In 2010, the CARB Executive Officer approved revisions to the motor vehicle GHG standards to harmonize the state program with the national program for 2012–2016 model years discussed above.

3.8 Low Carbon Fuel Standard

Executive Order S-1-07 (January 18, 2007)⁵ requires a 10-percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB by 2020⁶. In 2009, CARB approved the Low Carbon Fuel Standard (LCFS) regulations, which became fully effective in April 2010. In September

⁴ For additional information on the Project's ZNE residences, please refer to ConSol's Building Analysis Report, 2017, prepared for the Project.

⁵ Low Carbon Fuel Standard Program (EO S-01-07), 2007. Available at: <http://www.arb.ca.gov/fuels/lcfs/lcfs.htm> . Accessed: November 2015.

⁶ Carbon intensity is a measure of the GHG emissions associated with the various production, distribution and use steps in the "lifecycle" of a transportation fuel.

2018, CARB adopted an update to the LCFC regulations that requires a 20-percent reduction in the carbon intensity of transportation fuels by 2030. Consequently, the ECP assumes that the LCFS will remain in effect during construction and operation of the Project.

3.9 Advanced Clean Cars

In 2012, CARB approved the Advanced Clean Cars (ACC) program⁷, a new emissions-control program for model years 2017–2025. (This program is sometimes referred to as “Pavley II.”) The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34-percent fewer GHG emissions.

Implementation of the Pavley standards will reduce emissions from light-duty on-road vehicles. The ACC standards will result in approximately 3-percent more reductions from passenger vehicles than the Pavley standards by the year 2020, 12-percent by 2025, 27-percent by 2035, and 33-percent by 2050⁸.

3.10 Sustainable Communities and Climate Protection Act (SB 375)

The Sustainable Communities and Climate Protection Act (SB 375) (2008) addresses GHG emissions associated with the transportation sector. Specifically, SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets.

In 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for the San Diego Association of Governments (SANDAG) region are a 7-percent reduction in emissions per capita by 2020 and a 13-percent reduction by 2035. In 2018, CARB adopted updated SB 375 targets. Effective October 1, 2018, the targets for the SANDAG region are a 15-percent reduction by 2020 and a 19-percent reduction by 2035.

SANDAG completed and adopted its first Sustainable Communities Strategy (SCS) in 2011. CARB, by resolution, accepted SANDAG’s GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB’s 2020 and 2035 GHG emission reduction targets for the region.

SANDAG adopted the next iteration of its SCS in accordance with statutorily-mandated timelines. More specifically, in 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the first SCS, CARB determined that this planning document meets CARB’s 2020 and 2035 reduction targets for the region.

As discussed in Section 2.10 of the EIR, the Project is consistent with the policy objectives of SB 375 and SANDAG’s related regional planning projections. Indeed, as part of the master-planned Otay Ranch community, the Project is consistent with long-term, established development projections for this portion of unincorporated San Diego County; would minimize VMT by developing a mix of on-site, resident-serving uses; and, utilizes design principles to encourage non-vehicular modes of travel.

⁷ California Air Resources Board, Advanced Clean Cars, 2012. Available at: http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm . Accessed: November 2015.

⁸ CARB. Advanced Clean Cars Summary. Available at: https://www.arb.ca.gov/msprog/clean_cars/accpercent20summary-final.pdf . Accessed: June 2017.

3.11 Zero Emission Vehicles

As issued by Governor Brown in 2012, Executive Order (EO) B-16-2012 directs state entities under the Governor's direction and control to support and facilitate development and distribution of zero-emission vehicles (ZEVs). This EO also sets a long-term target of reaching 1.5-million ZEVs on California's roadways by 2025. On a state-wide basis, the EO also establishes a GHG emissions reduction target from the transportation sector equalling 80-percent less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the state-wide vehicle fleet.

In its 2017 Scoping Plan, CARB identified an objective of putting 4.2-million ZEVs on California's roadways by 2030. And, in EO B-48-18, Governor Brown set an accelerated state-wide target of 5-million ZEVs on California's roadways by 2030. This EO also served to launch an 8-year initiative to accelerate the sale of ZEVs through a mix of rebate programs and infrastructure improvements.

3.12 EV Plug-Ins

Pre-wiring for the installation of electric vehicle (EV) charging equipment would be implemented per the 2016 CALGreen Building Code (effective January 1, 2017).

Water and Wastewater-Related Regulatory Framework

California's existing regulatory framework advances important energy conservation objectives associated with water-related energy consumption, as described below, through requirements to minimize the amount of potable and non-potable water utilized.

The Project would comply with EO B-29-15 (signed by Governor Brown in January 2014), which calls for a 25-percent reduction in total water use below 2013 levels. Additionally, Otay Water District (OWD) has adopted a 20-percent reduction in water use⁹ that will be mandated for this Project.

Through the Project's site plan process and, in the case of individual homeowners, the Project's Covenants, Conditions, and Restrictions (CC&Rs), the WCP will require compliance with the County's "Water Conservation in Landscaping Ordinance" (aka, "Model Landscape Ordinance")¹⁰ for all outdoor landscapes in the Project, including common areas, public spaces, parkways, medians, parking lots, parks, and all builder or homeowner installed private front and backyard.

Solid Waste-Related Regulatory Framework

California's existing regulatory framework advances important energy conservation objectives associated with solid waste-related energy consumption, as described below, through requirements to reduce and recycle waste.

The California Integrated Waste Management Act of 1989, as modified by AB 341 in October 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25-percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; (2) diversion of 50-percent of all solid waste on and after January 1, 2000; and (3)

⁹ Additional information for reduction in indoor and outdoor water usage can be found in the Project's Water Conservation Plan (2018), prepared by Dexter Wilson Engineering, Inc

¹⁰ San Diego County, Landscape Ordinance No. 10032, 2010. Available online at: http://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/POD_08-016_Landscape_Ordinance.pdf . Accessed: November 2015.

diversion of 75-percent of all solid waste on or after 2020, and annually thereafter. The California Department of Resources Recycling and Recovery (CalRecycle) is required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

CalRecycle published a discussion document, entitled *California's New Goal: 75 Percent Recycling*, which identified concepts that would assist the State in reaching the 75-percent goal by 2020¹¹. Subsequently, in October 2013, CalRecycle released a revised concept list, entitled Update on AB 341 Legislative Report: State-wide Strategies to Achieve the 75-Percent Goal by 2020¹².

Project-wide curb side recycling for single-family, multi-family, school, commercial, and retail land uses will be provided in accordance with the California Integrated Waste Management Act (AB 939)¹³.

4. Construction-Related Regulatory Framework

Per CARB's Airborne Toxic Control Measure 13 (CCR, Title 13, Chapter 10, Section 2485)¹⁴ the Project will not allow construction vehicle idling time to exceed 5-minutes unless more time is required per engine manufacturers' specifications or for safety reasons.

5. Local Regulatory Framework

5.1 County of San Diego General Plan

Multiple elements of the County's General Plan (County of San Diego 2011) include a host of strategies and policies that serve to facilitate energy conservation benefits. For example, the following non-exclusive list of General Plan strategies serve to facilitate energy efficiency and smart growth:

- Strategy A-1: Reduce vehicle trips generated, gasoline/energy consumption, and greenhouse gas emissions.
- Strategy A-2: Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).
- Strategy A-3: Increase generation and use of renewable energy sources.
- Strategy A-4: Reduce water consumption.
- Strategy A-5: Reduce and maximize reuse of solid wastes.
- Strategy A-6: Promote carbon dioxide consuming landscapes.
- Strategy A-7: Maximize preservation of open spaces, natural areas, and agricultural lands.

¹¹ CalRecycle, *California's New Goal: 75 percent Recycling*, 2012. Available online at <http://www.calrecycle.ca.gov/75percent/Plan.pdf> . Accessed: November 2015.

¹² CalRecycle, *Update on AB 341 Legislative Report: Statewide Strategies to Achieve the 75 Percent Goal by 2020*, 2013. Available online at <http://www.calrecycle.ca.gov/75percent/UpdateOct13.pdf> . Accessed: November 2015.

¹³ CalRecycle, *History of California Solid Waste Law, 1985-1989: Statutes of 1989: AB 939, 1997*. Available online at: <http://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989.htm> . Accessed: November 2015.

¹⁴ California Air Resource Board, § 2485 - Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, 2003. Available at: <http://www.arb.ca.gov/regact/idling/fro1.pdf> . Accessed: November 2015.

The Otay SRP includes further discussion of energy conservation strategies and policies applicable to the Project.¹⁵ Specifically, the Otay SRP directs that Otay Ranch “wisely use and manage limited resources,” as defined to include water and energy. The Otay SRP also directs that the volume of trash be reduced and recycled, and that air quality be protected through minimizing reliance on passenger vehicles.

The goal for energy conservation, as stated in the Otay SRP, is to “establish Otay Ranch as a showcase for the efficient utilization of energy resources and the use of renewable energy resources.” The resulting policies include the requirement to “prepare a non-renewable energy conservation plan for each SPA [specific planning area].” This ECP has been prepared considering that requirement.

The County’s General Plan also includes a Conservation and Open Space (COS) Element, which sets forth goals and policies that are designed to reduce the emissions of criteria air pollutants, emissions of GHGs, and energy use in buildings and infrastructure, while promoting the use of renewable energy sources, conservation, and other methods of efficiency. As discussed in Project’s General Plan consistency evaluation (see EIR Appendix B, General Plan Amendment Report), the Project will comply applicable goals and policies, including those set forth in COS-14 (Sustainable Land Development).

5.2 Comprehensive Renewable Energy Plan

The County’s Comprehensive Renewable Energy Plan (CREP) researches and develops renewable energy options in the County of San Diego.¹⁶ This plan covers the residential, commercial, and industrial sectors of the County, with a focus on unincorporated areas, and presents a comprehensive approach to renewable energy and energy efficiency.

5.3 Strategic Plan to Reduce Waste

In line with CalRecycle’s waste diversion goal, the County’s Strategic Plan to Reduce Waste outlines near, mid and long-term programs and policies to increase the County’s solid waste diversion rate to meet State targets and support other county initiatives.¹⁷ In April 2017, the County adopted a diversion goal of 75 percent by 2025.

6. Project Environmental Design Consideration that Enhance Energy Efficiency

6.1 Natural Gas Fireplaces

Prior to the issuance of residential building permits, the Project applicant or its designee shall submit building plans illustrating that no wood burning stoves or fireplaces would be constructed. Single-family residences within the Project only shall be allowed to include natural gas fireplaces (see Table 2.10-3 in the Global Climate Change Section 2.10 of the EIR).

¹⁵ Available at: <http://www.sandiegocounty.gov/dplu/docs/OtayRanchGenDevPlanVol2.pdf> . Accessed: November 2015.

¹⁶ Planning and Development Services, San Diego County. Phase I of The Comprehensive Renewable Energy Plan (Crep) Report Prepared for the County Of San Diego, 2015. Available at: <http://www.sandiegocounty.gov/content/dam/sdc/pds/advance/CREP/CREP-report-initial-draft.pdf> . Accessed: June 2017.

¹⁷ Department of Public Works, San Diego County. Strategic Plan to Reduce Waste, 2017. Available at: http://www.sandiegocounty.gov/content/dam/dpw/SOLID_WASTE_PLANNING_and_RECYCLING/Files/Final_Strategic%20Plan.pdf . Accessed: June 2017.

6.2 Zero-Net Energy Single-Family Residences

Prior to the issuance of single-family residential building permits, the Project applicant or its designee shall submit a ZNE confirmation report showing that the building plans comply with the ZNE design standards as defined by the CEC. It is anticipated that ZNE design will be achieved through the combined use of enhanced energy efficiencies in the building envelope and on-site photovoltaic/solar systems on residence rooftops (see measures M-GCC-4 in Section 2.10 of the EIR and measures UT-ED-12 and Environmental Design Considerations UT-ED-21, Section 7.0 of the EIR).

6.3 Multi-Family Residential Energy Improvement Standards

Prior to the issuance of multi-family residential building permits, the Project applicant or its designee shall submit building plans illustrating that the Proposed Project's multi-family residences shall achieve a 10-percent or greater building energy efficiency than required by the 2016 State energy efficiency standards in Title 24, Part 6 of the California Code of Regulations (see measure M-GCC-5 in Section 2.10 of the EIR). Multi-family residences also shall use high-efficiency interior lighting (see measure M-GCC-2 in Section 2.10 of the EIR).

6.4 Non-Residential Energy Improvement Standards

Prior to the issuance of non-residential building permits, the Proposed Project applicant or its designee shall submit building plans illustrating that the Proposed Project's non-residential land uses shall achieve a 10-percent greater building energy efficiency than required by the 2016 State energy efficiency standards in Title 24, Part 6 of the California Code of Regulations (see measure M-GCC-4 in Section 2.10 of the EIR). Non-residential buildings also shall use high-efficiency interior lighting (see measure M-GCC-2 in Section 2.10 of the EIR).

6.5 Energy Star Appliances

The Proposed Project's builders shall offer residents and commercial tenants their choice of energy-efficient appliances (including washer/dryers, refrigerators), and appliances (including dishwashers) installed by builders shall be Energy Star rated or equivalent (see measure M-GCC-3 in Section 2.10 and Environmental Design Considerations UT-ED-16 in Section 7.11.3 of the EIR).

6.6 Solar Water Heating

All swimming pools located at private recreation centers on the Project will be designed and constructed to use solar water heating or other technology with an equivalent level of energy efficiency (see measure M-AQ-2 in Section 2.2 of the EIR).

6.7 New Residential Information

All new home packets will provide information on energy efficiency, energy efficiency lighting, lighting control systems, energy management, and existing energy incentive programs (see measure M-GCC-1).

6.8 Outdoor Lighting

All outdoor lighting will be LED or other high efficiency lightbulbs. Adjacent to Preserve lands the outdoor lighting shall be directed away from the Preserve edge (see measure M-GCC-2 and the Environmental Design Considerations BI-ED-22 of the EIR).

6.9 Water Conservation Plan

The Project will implement non-mandated water conservation measures as part of its Water Conservation Plan.¹⁸ Specifically, the Project will implement the following water reduction measures to reduce potable water consumption (see measure Environmental Design Considerations UT-ED-1 through UT-ED-9).

6.10 Hot Water Pipe Insulation

The Project would include installation of hot water pipe insulation in single-family and mixed-use residential units. Hot water pipe insulation would also be installed in non-residential development (see the Water Conservation Plan, Dexter Wilson, 2018).

6.11 Pressure Reducing Valves

Alternative H would include installation of pressure reducing valves in single-family and mixed-use residential units. Pressure reducing valves would also be installed in non-residential development (see the Water Conservation Plan, Dexter Wilson, 2018) (see measure Environmental Design Considerations UT-ED-4).

6.12 Water Efficient Dishwashers

In line with the residential and commercial appliances installed by the Project's builders, water efficient dishwashers that carry the ENERGYSTAR label shall be installed in all residential units and commercial uses where appropriate (see measure M-GCC-3 in Section 2.10 and Environmental Design Considerations UT-ED-16 in Section 7.0 of the EIR).

6.13 Landscaping

All Project landscaping shall comply with the Model Water Efficient Landscape Ordinance, California Code of Regulations Title 23, Division 2, Chapter 2.7 (Section 490 et seq.) (see Table 2.10-3 in Global Climate Change Section 2.10 of the EIR). At Project buildout, implementation of the above regulatory compliance measures and design features will result in an estimated water savings of 70,431 gallons per day for the residential component of the Project (see the Water Conservation Plan). These savings represent approximately 6.0-percent of the Project's total water use and will help lower per capita water use within OWD.

In addition, where feasible, the Project will provide graywater systems and rainwater harvesting for residential units and will contribute toward water supply offsets in the event OWD declares a Drought Level 3 emergency.

6.14 Outdoor Water Use

The Homeowner's Association shall appropriately regulate the use of water for cleaning outdoor surfaces and vehicles through the Covenants, Conditions, and Restrictions associated with the development areas (see measure Environmental Design Considerations UT-ED-5).

¹⁸ Resort Village Alternative H Water Conservation Plan, 2018. Prepared by: Dexter Wilson Engineering, Inc.

6.15 Zero Emission Vehicle Charging Infrastructure

Every residential garage will include a dedicated 208/240 branch circuit, facilitating the installation of ZEV charging infrastructure. Additionally, 50 percent of the total number of residential garages will be equipped with one Level 2 electric vehicle charging station per garage. Ten (10) Level 2 charging stations also will be installed within the on-site, non-residential parking areas.

Transportation Demand Management Program

The Project proposes to implement a Transportation Demand Management (TDM) program to facilitate increased opportunities for transit, bicycling, and pedestrian travel, as well as provide the resources, means, and incentives for ridesharing and carpooling (see measure M-GCC-1 in Global Climate Change Section 2.10 of the EIR).

6.16 Improved Project Design

Per Quantifying Greenhouse Gas Mitigation Measures by the California Air Pollution Control Officers Association, August 2010 (CAPCOA) 2010, measure **#LUT-9**, the Project will include improved design elements to enhance walkability and connectivity. Improved street network characteristics within a neighborhood include street accessibility, usually measured in terms of average block size, proportion of four-way intersections, or number of intersections per square mile. Design is also measured in terms of sidewalk coverage, building setbacks, street widths, pedestrian crossings, presence of street trees, and a host of other physical variables that differentiate pedestrian-oriented environments from auto-oriented environments.

6.17 Bicycle Access

Per CAPCOA 2010, measure **#LUT-8**, the Project will be located within 1/2 mile of an existing Class I path or Class II bike lane. The project design includes a comparable network that connects the project uses to the existing offsite facilities. Also, per CAPCOA measure **#SDT-9**, the Project will provide for, contribute to, or dedicate land for the provision of off-site bicycle trails linking the Project to designated bicycle commuting routes in accordance with an adopted citywide or countywide bikeway plan (see measure Environmental Design Considerations AQ-ED-1 and PS-ED-12).

6.18 Pedestrian Access

Per CAPCOA 2010, measure **#SDT-1**, the Project will provide a pedestrian access network that internally links all uses and connects to existing or planned external streets and pedestrian facilities contiguous with the project site. The Project will minimize barriers to pedestrian access and interconnectivity; and physical barriers such as walls, landscaping, and slopes that impede pedestrian circulation will be eliminated. This aspect of the Project design will help reduce and minimize vehicle trips.

6.19 Traffic Calming Measures

Per CAPCOA 2010, measure **#SDT-2**, Project design will include pedestrian/bicycle safety and traffic calming measures more than jurisdiction requirements. Roadways will be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with traffic calming features. Traffic calming features may include: marked crosswalks, countdown signal timers, curb extensions, speed tables, raised crosswalks,

raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others. Ten roundabouts will identify the entrance into each residential area and provide traffic calming at key internal intersections. This aspect of the Project design will help reduce and minimize vehicle trips.

6.20 Dedicated Land for Pedestrian and Bike Trails

Per CAPCOA 2010, measure **#SDT-9**, the Project will provide for, contribute to, or dedicate land for the provision of offsite pedestrian and bicycle trails linking the Proposed Project to designated bicycle commuting routes in accordance with an adopted city-wide or county-wide bikeway plan.

The Project includes provision of a community pathway on the west (reservoir) side of Otay Lakes Road, a perimeter trail within the development, as well as sidewalks and paths that connect every residential area and the Resort to the Village core which includes the 10-acre park, 10-acre school, the Public Safety site, the Mixed-Use area, and a Homeowners Association community/recreation center.

6.21 Ride-Sharing Program

Per CAPCOA 2010, measure **#TRT-3**, the Project will include a mobility hub and a ride-sharing program as well as a permanent transportation management association membership and funding requirement. The mobility hub would include EV charging stations, ride hailing loading zones, designated micro mobility parking areas, privately owned bicycle parking areas. Funding may be provided by Community Facilities, District, or County Service Area, or other non-revocable funding mechanism. The project will promote ride-sharing programs through a multi-faceted approach such as:

- Designating a certain percentage of parking spaces for ride sharing vehicles;
- Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles; and
- Providing a web site or message board for coordinating rides.

6.22 Commute Trip Reduction Marketing

Per CAPCOA 2010, measure **#TRT-7**, the Project will implement a mobility hub and marketing strategies to reduce commute trips. Implementing commute trip reduction strategies along with a mobility hub and complementary marketing strategy will result in greater VMT reductions. Marketing strategies may include:

- New employee orientation of trip reduction and alternative mode options,
- Event promotions, and
- Publications.

6.23 School Pool Program

Per CAPCOA 2010, measure **#TRT-10**, this project will create a ridesharing program for school children. Most school districts provide bussing services to public schools only. School Pool Program will help match parents to transport students to private schools, or to schools where students cannot walk or bike but do not meet the requirements for bussing. Encourage the Homeowners Associations to partner with the elementary school to create a “walking school bus program” for neighborhood students to safely walk to

Otay Ranch Resort Village Alternative H Energy Conservation Plan
and from school to reduce vehicular trips for drop-off and pick-up.

6.24 Project Contributions to Transportation Infrastructure

Per CAPCOA 2010, measure **#RPT-3**, this Project will reconstruct Otay Lakes Road from Lake Crest Drive to the eastern limits of the subdivision, per the San Diego County General Plan and the Project entitlements, including roundabouts at each Project entrance and a trail on the south side of the road, will contribute to

other traffic-flow improvements or other multi-modal infrastructure projects that reduce emissions and are not considered as substantially growth inducing. The local transportation agency will be consulted for specific needs.

7. Summary of Energy Conservation Measures

Table 1 below summarizes the regulatory compliance measures and the Project-specific design features that would be implemented to reduce the Project's energy consumption.

ECP Section	Description
	Renewable Energy Procurement
3.4	Renewable Portfolio Standards
	Building Energy
3.5	California Building Efficiency Standards (Title 24, Parts 6 and 11)
6.1	Natural Gas Fireplaces
6.2	Zero-Net Energy Single-Family Residences
6.3	Multi-Family Residential Energy Improvement Standards
6.4	Non-Residential Energy Improvement Standards
6.5	Energy Star Appliances
6.6	Solar Water Heating
6.7	New Residential Information Packet
6.8	Outdoor LED Lighting
	Mobile
3.7	Pavley Standards
3.8	Low-Carbon Fuel Standard
3.9	Advanced Clean Cars
3.11	Zero Emission Vehicles
3.12 and 6.15	EV Plug-Ins
6.16 to 6.24	TDM Program
	Water
3.5	California Green Building Standards Code (Title 24, Part 11)
6.9	Water Conservation Plan
6.10	Hot Water Pipe Insulation
6.11	Pressure Reducing Valves
6.12	Water Efficient Dishwashers
6.13	Landscaping
6.14	Outdoor Water Use
	Solid Waste
Page 9	Solid Waste Management

	Construction
4	Reduce Idling Time During Construction

Acronyms and Abbreviations

AB	Assembly Bill
AB 32	2006 Global Warming Solutions Act
AB 341	Mandatory Commercial Recycling
AB 939	California Integrated Waste Management Act
AB 1493	Pavley
ACC	Advanced Clean Cars
CAA	Clean Air Act
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEC	California Energy Commission
CC&Rs	Covenant, Conditions, and Restrictions
CCR	California Code of Regulations
CH ₄	methane
CO ₂	carbon dioxide
CREP	Comprehensive Renewable Energy Plan
DOE	Department of Energy
DOT	Department of Transportation
ECP	Energy Conservation Plan
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
EV	electric vehicle
First Update	First Update to the Climate Change Scoping Plan: Building on the Framework
GHG	Greenhouse Gas
HFCs	hydrofluorocarbons
LCFS	Low Carbon Fuel Standard
MPOs	metropolitan planning organizations
Mpg	miles per gallon
NHTSA	National Highway Traffic Safety Administration
N ₂ O	nitrous oxide
Otay SRP	Otay Ranch General Development Plan/Otay Subregional Plan, Volume II
OWD	Otay Water District
PFCs	perfluorocarbons
Project	Otay Ranch Resort Village Alternative H
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SB375	Sustainable Communities and Climate Protection Act
Scoping Plan	Climate Change Scoping Plan: A Framework for Change
TDM	Transportation Demand Management
SF ₆	sulfur hexafluoride
VMT	Vehicle Miles Travelled

Otay Ranch Resort Village Alternative H Energy Conservation Plan

ZNE	zero-net energy
ZEVs	zero-emission vehicles